

BULK AMORPHOUS METAL MAGNETIC COMPONENT

ABSTRACT

A high performance bulk magnetic component includes a plurality of layers of crystalline, ferromagnetic metal strips adhesively bonded together to form a polyhedrally shaped part. When the component is excited at an excitation frequency "f" to a peak induction level B_{\max} , it exhibits a core-loss less than "L" wherein L is given by the formula $L = 0.0135 f (B_{\max})^{1.9} + 0.000108 f^{1.6} (B_{\max})^{1.92}$, said core loss, said excitation frequency and said peak induction level being measured in watts per kilogram, hertz, and teslas, respectively. Performance characteristics of the high performance bulk magnetic component of the present invention are significantly better when compared to silicon-steel components operated over the same frequency range.

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